Watershed Action Plan Development Task Force

The information presented herein provides a summary of actions taken by the Watershed Action Plan (WAP) Task Force, formed to achieve compliance with the various requirements set forth in the San Bernardino County MS4 Permit (Order No. R8-2010-0036), issued by the Santa Ana Regional Water Quality Control Board (RWQCB). Incorporated in the MS4 Permit Fact Sheet is a long-term holistic approach to address water quality and hydromodification impacts resulting from urbanization. This goal is to be achieved through integration of water quality, stream protection, stormwater management, and re-use strategies with land planning policies, ordinances, and plans within each jurisdiction to the maximum extent practicable (MEP). The RWQCB also emphasized that the plans for each jurisdiction should address cumulative impacts of development on vulnerable streams; preserve or restore, consistent with the MEP standard, the structure and function of streams; and protect surface water and groundwater quality.

The specific requirements for development of the WAP are set forth in Section XI, New Development (Including Significant Re-Development), Sub-section B, Watershed Action Plan of the Permit. The first requirement of the WAP is that the Permittees develop an integrated watershed management approach to improve integration of planning and approval processes with water quality and quantity control measures. It is also a requirement of the WAP that each of the Permittees review the watershed protection principles and policies, specifically addressing urban and stormwater runoff in their planning procedures. The Principal Permittee, in collaboration with the Co-Permittees, is responsible for developing a WAP that describes and implements the Permittees' approach to coordinated watershed management. The objective of the WAP as identified in the Permit is to improve integration of water quality, stream protection, stormwater management, water conservation and re-use, and flood protection, with land use planning and development processes. The Permit requires that the WAP be developed in two phases.

WAP Phase 1 Requirements

In accordance with Provision XI.B.3.a of the Permit, the Principal Permittee, in coordination with the Co-Permittees, shall:

- Identify program-specific objectives for the WAP; the objectives will include consideration of:
    - The watershed protection principles specified in Section XI.C.3.a - g, below;
    - The Permittees' planning and procedure review required in XI.B.2, above;
    - Potential impediments to implementing watershed protection principles during the planning and development processes, including but not limited to Low Impact Development (LID) principles and management of the impacts of hydromodification;
    - Impaired waters [Clean Water Act (CWA) § 303(d) listed] with and without approved Total Maximum Daily Loads (TMDLs), pollutants causing impairment, monitoring programs for these pollutants, control measures, including any Best Management Practices (BMPs) that the Permittees are currently implementing, and any BMPs the Permittees are proposing to implement. In addition, if a TMDL has been developed and an implementation plan is yet to be developed, the WAP shall specify that the responsible Permittees should develop constituent-specific source control measures, conduct additional monitoring and/or cooperate

with the development of an implementation plan, where feasible, and consistent with the MEP standard.

- Develop a structure for the WAP that emphasizes coordination of watershed priorities with the Permittees' Local Implementation Plans (LIPs) via the area-wide model LIP;
- Identify linkages between the WAP and the Stormwater Quality Standards Task Force (SWQSTF), Municipal Stormwater Management Program (MSWMP), Water Quality Management Plan (WQMP), the implementation of LID, and the TMDL Implementation Plans;
- Identify other relevant existing watershed efforts (Chino Basin Master Plan, Santa Ana Watershed Project Authority's (SAWPA's) Integrated Regional Water Management Plan (IRWMP), etc., and their role in the WAP;
- Ensure that the Hydrologic Conditions of Concern (HCOC) Map Watershed Geodatabase is available to watershed stakeholders via the World Wide Web, and has incorporated the following information:
    - Delineation of existing unarmored or soft-armored drainages in the permitted area that are vulnerable to geomorphological changes due to hydromodification and those channels and streams that are engineered, hardened, and maintained (EHM).
    - Geographic Information System (GIS) layers for known sensitive species, protected habitat areas, drainage boundaries, and potential stormwater recharge areas and/or reservoirs;
    - 303(d)-listed water bodies and associated pollutants;
    - Available and relevant regulatory and technical documents accessible via hyperlinks;
    - Develop a schedule and procedure for maintaining the Watershed Geodatabase, and develop a draft schedule for expected enhancements to increase functionality;
    - Review the Watershed Geodatabase with Regional Board staff from the Stormwater, TMDL, and Watershed Planning/ Program Sections, and other resource agencies, to verify attributes of the Geodatabase, including drainage feature stability/susceptibility/risk assessments, and the intended use of the Geodatabase to support regulatory processes such as WQMP approvals, Clean Water Act Section (CWA) 401 Water Quality Standards Certifications (401 Certifications), and LID BMP feasibility evaluations;
    - Identify potential causes of identified stream degradation including a consideration of sediment yield and balance on a watershed or subwatershed basis.
- Conduct a system-wide evaluation[1] to identify opportunities to retrofit existing stormwater conveyance systems, parks, and other recreational areas with water quality protection measures, and develop recommendations for specific retrofit studies that incorporates opportunities for addressing applicable TMDL implementation plans, hydromodification management, and/or LID implementation within the permitted area.

[1] For example, see the 2005 RBF Retrofit Study conducted for Orange County MS4 permittees.

- Conduct a system wide evaluation to identify opportunities for joint or coordinated development planning to address stream segments vulnerable to hydromodification and coordinated re-development planning to identify restoration opportunities for hardened and engineered streams and channels. The WAP shall identify contributing jurisdictions and the stream segments that will benefit from this coordination.
- Invite participation and comments from resource conservation districts, water and utility agencies, state and federal agencies, non-governmental agencies and other interested parties in the development and use of the Watershed Geodatabase;
- Submit the Phase 1 components in a report to the Executive Officer for approval. The Report shall be deemed acceptable to the Regional Board if the Executive Officer raises no written objections within 30 days of submittal.

WAP Phase 2 Requirements

In accordance with Section XI.B.3.b of the Permit, the Principal Permittee, in coordination with the Co-Permittees, shall:

- Contingent upon consensus with Regional Board staff and other resource agencies as described in XI.B.3.a.vii, above, specify procedures and a schedule to integrate the use of the Watershed Geodatabase into the implementation of the MSWMP, WQMP, and TMDLs;
- Develop and implement a Hydromodification Monitoring Plan (HMP) to evaluate hydromodification impacts for the drainage channels deemed most susceptible to degradation. The HMP will identify sites to be monitored, include an assessment methodology, and required follow-up actions based on monitoring results. Where applicable, the monitoring sites may be used to evaluate the effectiveness of BMPs in preventing or reducing impacts from hydromodification.
    - The HMP should be prioritized based on drainage feature/susceptibility/risk assessments and opportunities for restoration.
- Conduct training workshops in the use of the Watershed Geodatabase. Each Permittee must ensure that their planning and engineering staffs attend a workshop.
- Conduct demonstration workshops for the Watershed Geodatabase to be attended by appropriate upper-level managers and directors from each Permittee.
- Develop recommendations for streamlining regulatory agency approval of regional treatment control BMPs. The recommendations should include information needed for submittal to the Regional Board for approval of regional treatment control BMPs. At a minimum, this information should include:
    - BMP location;
    - type and effectiveness in removing pollutants of concern;
    - projects tributary to the regional treatment system;
    - engineering design details;
    - funding sources for construction, operation and maintenance; and
    - parties responsible for monitoring effectiveness, operation and maintenance.

  The Permittees are encouraged to collaborate and work with other counties to facilitate and coordinate these recommendations.
- Implement applicable retrofit or regional treatment recommendations from the evaluation conducted in Section B.3.a.ix, above.

- Submit the Phase 2 components in a report to the Executive Officer. The submitted report shall be deemed acceptable to the Regional Board if the Executive Officer raises no written objections within 30 days of submittal.

Watershed Action Plan Task Force

The San Bernardino County Flood Control District (District), as the Principal MS4 Permittee, in meeting the permit requirement to develop the WAP, convened a Watershed Action Plan Task Force to assist in developing the WAP. The District has identified a concept for the WAP, which, where appropriate and beneficial, would encourage an integrated approach to stormwater management on a regional basis in conjunction with the Water Masters for the upper Santa Ana watershed. Specifically, the District is proposing to convert the WAP into a local planning tool that would help identify areas where stormwater infiltration is an appropriate action as well as locations where it may be infeasible given soil, geologic, or groundwater conditions. Those locations that cannot be clearly designated would require a more detailed level of assessment, consistent with the MS4 requirements, in order to determine the feasibility/appropriateness of stormwater infiltration. The WAP would then be integrated into the WQMP development process, providing consistency in interpretation and facilitating reviews.

The benefits of this approach include cost savings, comprehensive and consistent technical analyses, and simplicity, resulting in straightforward guidance that will assist local governments and property owners to easily identify locations where infiltration or other technical solutions should occur. It would also help the region determine whether a stormwater offset program could be developed to encourage investments in areas where additional stormwater infiltration would provide water supply and water quality benefits. Regional and local agencies, in conjunction with development leaders within the Inland Empire recognize that capture and infiltration of stormwater, as prioritized by the new MS4 Permit, is an important way to augment and enhance the reliability of local water supplies. Many technical issues would need to be worked out as part of the development of an integrated WAP.

It is with this premise that the District formed a Watershed Action Plan Task Force initially in concept in January of 2010 and with full membership by June of the same year. The mission of the group is the development of an integrated approach to storm water management on a regional basis. This would be accomplished through the integration of regulatory, agency, development, manufacturing, construction, and professional aspects for a holistic solution. Led by the District and receiving guidance from a hands-on group of advisors that include representatives from the cities, private development, water agencies, water masters, LID manufacturers, hydrogeology consultants, educational institutes, and the Regional Board. The Task Force is structured to provide an opportunity for a larger group of interested stakeholders to participate in workshops and the review of proposed work products.

Task Force Members:

- County of San Bernardino
- County of San Bernardino Flood Control District
- City of Big Bear Lake
- City of Chino
- City of Chino Hills
- City of Colton
- City of Fontana
- City of Yucaipa
- County of Orange
- County of Riverside
- Building Industry Association
- Chino Basin Watermaster
- Contech
- Geosyntec Consultants
- Heal The Bay

- City of Grand Terrance
- City of Highland
- City of Loma Linda
- City of Montclair
- City of Ontario
- City of Rancho Cucamonga
- City of Redlands
- City of Rialto
- City of San Bernardino
- City of Upland
- Inland Empire Utility Agency
- Inland Empire Waterkeeper
- Lewis Operating Corporation
- RBF Consulting
- San Bernardino Valley Water District
- Santa Ana Watershed Project Authority (SAWPA)
- Water Resources Institute
- Western Municipal Water District

Task Force Stakeholders:

- Santa Ana Regional Water Quality Control Board
- Counties and Regional Agencies
- Local Agencies
- Water Masters
- Water Purveyors
- Educational Institutions
- Private Development
- Environmental Community
- Construction Industry
- Product Manufacturing
- Technical Professionals
- Planning Professionals
- Legal Professionals

WAP Workshops

A requirement of the MS4 Permit is for the County, in coordination with the Co-Permittees, to identify program-specific objectives for the WAP. The approach the County and the Co-Permittees used to develop these objectives for the WAP included holding a series of workshops that focused on key elements of the program. The County and Co-Permittees expanded the scope of the workshops by inviting other interested stakeholders in the watershed and members of the WAP Task Force to ensure representation of a variety of viewpoints. The following WAP workshops were held to identify the program specific objectives:

- Residential Workshop (December 10, 2010)
- Commercial/Retail/Industrial Workshop (December 10, 2010)
- Watershed Efforts and Linkages (December 15, 2011)
- Watershed Protection Principles (January 12, 2011)
- Parks and Public Facilities (January 19, 2011)
- Streets and Arterials (January 20, 2011)

Residential Workshop

The format of the residential workshop included a presentation of residential scenarios and types of participants in water quality implementation, discussion about residential planning principles, and development of recommendations for future planning principles. The basis for Residential Categories is impervious footprint. The intent was to keep the model simple and consistent with other planning and technical categories. The residential scenarios discussed included the following:

- Low Density
- Medium Density
- High Density

The participants in residential water quality implementation were identified as the following:

- Public Agencies (County, Municipal)
- Developers
- Home Owner Associations
- Home Builders
- Regulatory Agencies
- Non-governmental Organizations (NGOs)

The residential planning principles that were identified are recommended for further evaluation through the WAP and in the development of the WQMP template. The following planning principles will be considered as the WAP is further developed and solutions to issues regarding these planning principles will be developed and incorporated into the WAP. Once solutions are developed in the WAP to modify the following planning principles, these solutions can be incorporated into the Permittees LIP, municipal codes, ordinances, and General Plans. The residential planning principles identified included the following:

- Competing Regulatory Agency / Outside Requirements
- Synergy / Conflicts Resolution with Overall Project / Area Solutions
- Sustainability Principles Incorporation into Solutions (Infiltration, Water Supply, Sizing Criteria, Recharge Opportunities)
- Site Planning / Density
- Regional vs. Local Solutions (Project Scale Issues)
- Maintenance / Life Cycle Cost Evaluation
- Construction / Initial Cost Evaluation
- Design Principles and Design Integration (Self Retaining Stormwater, Landscape, Arterial and Streets)
- WQMP / Code Approach
- Groundwater Recharge
- Regional and Local Solutions through Agency Planning with Water Masters (Potential Legal and Physical Constraints in Developing Solutions)
- Hydromodification
- Aesthetics
- Multiuse of Sites (Parks, Trails, Habitat)
- Water Conservation / Drought Friendly Landscape
- Building Structure Materials
- Vector Management

The recommendations for future planning principles included the following:

<u>CEQA</u>

- Increase Project Level Evaluation (Specific / General Plan Level)

<u>General Plan / Specific Plan (High Level)</u>

- Design Guideline Enhancement
- More Detailed Project Findings
- Update General Plans
- Higher Level of Detail in Specific Plan Sections

<u>Conditions of Approval / Tract Maps / WQMPs</u>

- Increase Detail Requirements

Commercial/Industrial/Retail Workshop

The format of the commercial/industrial/retail workshop included a presentation of commercial/industrial/retail scenarios and types of participants in water quality implementation, discussion about planning principles, and development of recommendations for future planning principles. The basis for Commercial Categories is impervious footprint and similarities in use. Site layouts for commercial sites are often driven by marketing and circulation requirements. The commercial/industrial/retail scenarios discussed included the following:

- Retail / Office / Mixed Use / Institutional
- Industrial

The commercial/industrial/retail planning principles that were identified are recommended for further evaluation through the WAP and in the development of the WQMP template. The following planning principles will be considered as the WAP is further developed and solutions to issues regarding these planning principles will be developed and incorporated into the WAP. Once solutions are developed in the WAP to modify the following planning principles, these solutions can be incorporated into the Permittees LIP, municipal codes, ordinances, and General Plans. The commercial/industrial/retail planning principles identified included the following:

- Competing Regulatory Agency / Outside Requirements
- Synergy / Conflicts Resolution with Overall Project / Area Solutions
- Sustainability Principles Incorporation into Solutions (Infiltration, Water Supply, Sizing Criteria, Recharge Opportunities)
- Site Planning / Layout
- Regional vs. Local Solutions (Difficult with separation of private and public maintenance)
- Maintenance / Life Cycle Cost Evaluation
- Construction / Initial Cost Evaluation
- Design Principles and Design Integration (Self Retaining Stormwater, Landscape, Arterial & Streets)
- WQMP / Code Approach
- Groundwater Recharge
- Simplicity of Solutions
- Multiuse of Sites (Parks, Trails, Habitat)
- Water Conservation / Drought Friendly Landscape

The recommendations for future planning principles included the following:

CEQA

- Increase Project Level Evaluation (Specific / General Plan Level)

General Plan / Specific Plan (High Level)

- Design Guideline Enhancement
- More Detailed Project Findings
- Update General Plans
- Update Zoning Code
- Develop WQMP Concepts with Preliminary Drainage Concepts

Conditions of Approval / Parcel Maps / WQMPs

- Increase Detail Requirements

Parks and Public Facilities Workshop

The format of the Parks and Public Facilities workshop included a presentation of park and public facility types, a discussion of planning principles that should be considered, and development of recommendations for future planning principles. The park types were classified as follows:

- Natural
- Developed

It is recommended that the parks planning principles that were identified be further evaluated through the WAP and in the development of the WQMP template. The parks planning principles identified included the following:

- Use of parks for regional and retrofit opportunities
- Overlapping use of recreational facilities with flood control
- Parks classification affected by use, size, and maintenance
- Parks may need to be evaluated as components in an overall strategy
- Assessment of primary benefit (Natural vs. Developed)
- Introduce planning principles at park concept development

The recommendations for future park planning principles included the following:

CEQA

- Amend the Initial Study checklist at the local or statewide level

General Plan / Specific Plan (High Level)

- Early planning criteria development
- Encourage design integration
- Policy statement revisions
- Storm drain master plan integration

The public facility types were classified as follows:

- Industrial
- Administrative
- Utilities

The public facility principles that were identified are recommended for further evaluation through the WAP and in the development of the WQMP template. The public facility planning principles identified included the following:

- Classification affected by use
- A facility is evaluated as a whole and not as components
- Commercial/industrial principles apply
- Consolidation of facilities into complexes
- Higher density for administrative functions
- Clarify retrofit threshold
- Encourage application of water quality features in retrofit projects
- Introduce planning principles at concept development

The recommendations for future public facility planning principles included the following:

CEQA

- Amend the Initial Study checklist at the local or statewide level

General Plan / Specific Plan (High Level)

- Early planning criteria development
- Encourage design integration
- Policy statement revisions
- Storm drain master plan integration

Streets and Arterials Workshop

The format of the Streets and Arterials workshop included a presentation of street types, facility types, a discussion of planning principles that should be considered, and development of recommendations for future planning principles. The street types were classified as follows:

- Streets with no parkways and medians
- Streets with parkways
- Streets with parkways and medians

The street principles that were identified are recommended for further evaluation through the WAP and in the development of the WQMP template. The street planning principles identified included the following:

- Protecting life and property must be balanced with the ability to capture rainfall for re-use or harvesting to comply with permit.
- Consider a mechanism for early discussion with developers regarding those "must do" items for water quality/water conservation prior to submission of plans. This should no longer be an afterthought once the site is designed.
- A policy should be in place for those sites where infiltration (LID principles) is infeasible to allow the participation in "In Lieu" programs through regional treatment opportunities.
- Consideration that many developers prefer to receive a policy (e.g., General Plan) or guidance document that informs them where the agency plans to handle water quality/water conservation rules and regulations.
- Evaluate the potential to promote return to rural street sections for new arterials and streets.
- Consider utilization of reverse parkway drains to parkways and medians for existing arterials.
- Use of more sub-regional to regional systems to assist citywide or countywide street networks.
- Create more street tree programs for locations that have no treatment with tree-box type systems.
- Potentially reduce street widths in locations where no parkways exist, balancing circulation needs.
- Develop a standard tool kit that an agency can apply in different existing street scenarios.

The recommendations for future planning principles included the following:

CEQA

- Increase Project Level Evaluation (Specific / General Plan Level)

General Plan / Specific Plan (High Level)

- Consider alternative designs to conventional streets.
- Develop a policy on how alternatively designed facilities will be maintained including funding.

- Changes in the development code will require the education principals applied to decision makers and elected officials in all jurisdictions, as well as the County, that this is not only important but is required and will directly affect them.
- Consider an implementation policy to modify street tree programs to include systems that include aid in improvement of stormwater quality.
- Reduced street widths needed to be balanced with parking needs.